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| EXAMINER |
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CHEN, VIVIAN

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| ART UNIT | PAPER NUMBER |
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1794

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10/14/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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|------------------------------|--------------------------------------|---------------------------------------|--|
| Office Action Summary | Application No. 10/584,746 | Applicant(s) ZIEGLER ET AL. | |
| | Examiner Vivian Chen | Art Unit 1794 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 June 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-12, 14-17 and 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-12, 14-17 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. Claims 6, 13, 18-19 have been cancelled by Applicant.

Information Disclosure Statement

2. The information disclosure statement filed 9/9/2008 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed.

The cited foreign references are missing from the application.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 20 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 20 recites the limitation "said polyacetal molding consisting essentially of a polyacetal". There is insufficient antecedent basis for this limitation in the claim. Or did Applicant mean to say that "said polyacetal molding consists essentially of..."?

Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 1-5, 7-12, 14-17, 20 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over:

(a) claims 22-41 of copending Application No. 11/576,309 (US 2007/0264514); or

(b) claims 1-17 of copending Application No. 11/846,964 (US 2008/0029934);

in view of ZIEGLER ET AL (US 6,296,797),

and in view of MASUBUCHI ET AL (US 2001/0041772),

for the reasons stated in the previous Office Action.

The copending Applications each claim composite bodies comprising a polyacetal component (e.g., polyoxymethylene) having an elastomeric component directly molded thereon, wherein the bond strength between the elastomeric component and the polyacetal components is at least 0.5 N/mm² and wherein the elastomeric component comprises a thermoplastic polyester elastomer or thermoplastic polyetherester elastomer. The elastomeric component and the polyacetal components optionally contain conventional additives (e.g., stabilizers, nucleating

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agents, etc.). The composites are formed by injection molding a polyacetal component, followed by injection molding the elastomer component onto and over the polyacetal component.

Features not explicitly claimed are known in the prior art as disclosed by ZIEGLER ET AL '797 and MASUBUCHI ET AL.

ZIEGLER ET AL '797 discloses composite bodies comprising a polyacetal component (e.g., polyoxymethylene) having thermoplastic elastomer components directly molded thereon, wherein the bond strength between the elastomer and the polyacetal components is at least 0.5 N/mm². The elastomer and the polyacetal components optionally contain conventional additives (e.g., stabilizers, nucleating agents, etc.). The composites are formed by injection molding a polyacetal component, followed by injection molding the elastomer component onto and over the polyacetal component, wherein the polyacetyl component is optionally preheated to at least 80°C to less than its melting point, and wherein the elastomer component has a typical melt temperature of 180-240°C, and wherein the mold temperature for the elastomer molding step is typically 20-100°C. The composite bodies form conveying and/or connectors with high durability and good dampening characteristics. (entire document, e.g., line 8-22, col. 1; line 47-50, col. 2; line 52, col. 2 to line 37, col. 3; line 60, col. 3 to line 8, col. 4; line 30-45, col. 5; line 52, col. 5 to line 2, col. 6; etc.)

MASUBUCHI ET AL discloses it is well known in the art to use thermoplastic polyetherester elastomers having a typical hardness of Shore D 32, wherein the elastomer comprises polybutylene terephthalate hard segments and polytetramethylene oxide soft segments in compositions suitable for conventional elastomer applications in order to obtain articles with

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advantageous flexibility, durability, heat resistance, chemical resistance, and other physical properties. (paragraphs 15-16, 20, 22, 112)

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use known molding techniques as disclosed in ZIEGLER ET AL '797 and known elastomers as disclosed in MASUBUCHI ET AL to form the multi-component articles claimed in the copending Applications in order to obtain the optimum combination of mechanical properties, chemical and heat resistance, and other physical properties desired for specific applications. One of ordinary skill in the art would have selected the coverage and positioning of the elastomeric component depending on the specific mechanical and structural requirements for a given usage. It would have been obvious to apply multiple elastomer components on the polyacetal component (claim 9) depending on the specific structural and dampening requirements required for a specific application.

This is a provisional obviousness-type double patenting rejection.

Claim Rejections - 35 USC § 103

7. Claims 1-5, 7-12, 14-17, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over:

ZIEGLER ET AL (US 6,296,797),

in view of FLEXMAN ET AL (US 2004/0121175),

and in view of MASUBUCHI ET AL (US 2001/0041772) ,

for the reasons stated in the previous Office Action.

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ZIEGLER ET AL '797 discloses composite bodies comprising a polyacetal component (e.g., polyoxymethylene) having thermoplastic elastomer components directly molded thereon, wherein the bond strength between the elastomer and the polyacetal components is at least 0.5 N/mm². The elastomer and the polyacetal components optionally contain conventional additives (e.g., stabilizers, nucleating agents, etc.). The composites are formed by injection molding a polyacetal component, followed by injection molding the elastomer component onto and over the polyacetal component, wherein the polyacetyl component is optionally preheated to at least 80°C to less than its melting point, and wherein the elastomer component has a typical melt temperature of 180-240°C, and wherein the mold temperature for the elastomer molding step is typically 20-100°C. The composite bodies form conveying and/or connectors with high durability and good dampening characteristics. (entire document, e.g., line 8-22, col. 1; line 47-50, col. 2; line 52, col. 2 to line 37, col. 3; line 60, col. 3 to line 8, col. 4; line 30-45, col. 5; line 52, col. 5 to line 2, col. 6; etc.) However, the reference does not explicitly disclose the use of polyetherester elastomers.

FLEXMAN ET AL discloses that it is well known in the art to overmold polyacetal components with polyester polyether thermoplastic elastomers in order to form durable, delamination resistant composite articles, wherein a suitable polyester-polyether elastomer typically comprises polybutylene and polytetramethylene oxide segments and a Shore D hardness of 40. The composites have a peel strength of at least 2 lbs/in. (Example 4a; paragraphs 15, 18, 91-92)

MASUBUCHI ET AL discloses it is well known in the art to use thermoplastic polyetherester elastomers having a typical hardness of Shore D 32, wherein the elastomer

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comprises polybutylene terephthalate hard segments and polytetramethylene oxide soft segments in compositions suitable for conventional elastomer applications in order to obtain articles with advantageous flexibility, durability, heat resistance, chemical resistance, and other physical properties. (paragraphs 15-16, 20, 22, 112)

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use known polyester-polyether-based elastomers as disclosed in FLEXMAN and MASUBUCHI ET AL as the elastomer component in the composites of ZIEGLER ET AL '797 in order to obtain the optimum combination of mechanical properties, delamination resistance, chemical and heat resistance, and other physical properties desired for specific applications. One of ordinary skill in the art would have selected the coverage and positioning of the elastomeric component depending on the specific mechanical and structural requirements for a given usage. It would have been obvious to apply multiple elastomer components on the polyacetal component (claim 9) depending on the specific structural and dampening requirements required for a specific application.

Response to Arguments

8. Applicant's arguments filed 6/11/2009 have been fully considered but they are not persuasive.

(A) Applicant argues that the provisional obviousness-type double patenting have been overcome by the Claim Amendments filed 6/11/2009. However, with respect to the language "a polyacetal molding consisting essentially of a polyacetal . . . " in claim 1, the copending '514 and '934 Applications do not require a blend of polyacetal and polyetherester elastomer. Since it is

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clear from the claim language in the copending Applications that the polyacetal component is *not* blended with the polyetherester-containing elastomer component, but rather is a component (i.e., portion, coating, and/or molding) which is distinct from the polyetherester-containing elastomer component, the copending Applications meets the recited limitation of “a polyacetal molding consisting essentially of a polyacetal . . . “ and various additives; therefore, the present application claims are not patentably distinct from the inventions claimed in the copending Applications, and therefore are appropriately provisionally rejected under obviousness-type double patenting.

Applicant further argues that the Claim Amendments filed 6/11/2009 preclude the presence of other materials in the elastomer component of the composite, and thereby distinguishes the elastomer component in the present claim 1 from those in copending Applications ‘514 and ‘934. However, the restricting phrase “consisting of a polyetherester elastomer” only applies to the phrase “which has been partially or completely coated with the thermoplastic polyester”. However, said restricting phrase does not extend to the following language "or onto which one or more moldings composed of the thermoplastic polyetherester elastomer have been directly molded” which represents an alternative structure from the earlier claimed "partially or completely coated with the thermoplastic polyester“ and hence does not preclude the presence of other elastomeric components in "one or more moldings" because “composed of” is deemed to be ‘open’ language which, like the terms “comprising” or “containing”, allows for the presence of other materials. Since the copending Applications claim a composite in which the elastomer component which is “directly molded” onto the polyacetal component contains thermoplastic polyetherester elastomer, the copending Applications meets

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the recited limitation of “moldings composed of the thermoplastic polyetherester elastomer”; therefore, the present application claims are not patentably distinct from the inventions claimed in the copending Applications, and therefore are appropriately provisionally rejected under obviousness-type double patenting.

It is further noted that claim 15 was not been amended in the response filed 6/11/2009 and therefore does not contain claim language precluding the presence of other materials in either the polyacetal component or the elastomer component.

(B) Applicant argue that FLEXMAN ET AL teaches away from the claimed invention because FLEXMAN ET AL requires the use of an adhesion promoter in a polyacetal composition. However, FLEXMAN ET AL is relied upon to illustrate various elastomeric materials which are disclosed in the art as being suitable for forming elastomeric components usable in combination with polyacetal-based components to produce desirable composite structures. In lieu of evidence to the contrary, one of ordinary skill in the art would reasonably believe that a material disclosed to be suitable for use as a thermoplastic elastomeric component in polyacetal-based composites of FLEXMAN ET AL would be a useful material for forming the thermoplastic elastomeric component in the polyacetal-based composites of ZEIGLER ET AL ‘797, especially when techniques for enhancing intercomponent adhesion (e.g., via surface pretreatment, roughening, etc.) are well known in the art.

With respect to claim 15, Applicant’s arguments regarding the presence of additional components in the polyacetal component of FLEXMAN ET AL are irrelevant because claim 15 does not preclude the presence of additional materials in the polyacetal component.

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(C) Applicant argues that there is no motivation to select polyetheresters from the list of overmolding materials in FLEXMAN ET AL. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). Contrary to Applicant's assertions that FLEXMAN ET AL provides no teaching suggestion, or motivation to choose polyetheresters, a polyetherester elastomer is in fact used in one of the Examples of FLEXMAN ET AL (Example 4(a)), which would provide at least an implicit suggestion to one of ordinary skill in the art that thermoplastic polyetheresters are considered to be desirable or preferred as an overmolding material for polyacetal-based composites. Although the Examples in FLEXMAN ET AL indicates some lack of adhesion in the absence of the disclosed adhesion-promoting additive, FLEXMAN ET AL does not teach away from the use of polyetherester elastomers per se. As long as adequate adhesion is achieved, either by the method of FLEXMAN ET AL or by the use of other well established methods of enhancing adhesion between components (e.g., mechanical or chemical surface treatments, roughening, etc.), one of ordinary skill in the art would reasonably believe that polyetherester elastomers as disclosed in FLEXMAN ET AL would be a useful material for forming the elastomeric component of ZEIGLER ET AL '797. In lieu of evidence of criticality or unexpected results, it would have been obvious to one of ordinary skill in the art to select a specific type of elastomer (i.e., polyetherester) from among a

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list of materials disclosed to be useful in polyacetal-based composites based on various well established considerations (e.g., material costs, mechanical and elastomeric properties, chemical and heat resistance, etc.) depending on the requirements of a specific end-use, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vivian Chen whose telephone number is (571) 272-1506. The examiner can normally be reached on Monday through Thursday from 8:30 AM to 6 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho, can be reached on (571) 272-1123. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

The General Information telephone number for Technology Center 1700 is (571) 272-1700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

October 10, 2009

/Vivian Chen/

Primary Examiner, Art Unit 1794